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ABSTRACT

The author discusses the importance of questioning techniques in the instruction of learning disabled students. Factors affecting students' responses to questions are the strengths and weaknesses of the learner and the type and difficulty of the question asked. A systematic method of providing or following up on students answers, termed Interpretation of Pupil Answers (IPA), is explained. Definitions and examples of five types of interpretation related to IPA are given: (1) a positive evaluation in which the student is provided with information about their work that is favorable; (2) a negative evaluation in which the judgment of the student's work is unfavorable; (3) a prompt in which the teacher provides a hint or clue so that the student can arrive at the desired answer; (4) an expand in which the student is asked to give a justification, an explanation, or an example; and (5) a refocus in which the student is reminded that he/she has only answered part of the question or has overlooked some component of the instructions. It is suggested that it may be necessary to interpret correct as well as incorrect answers and silence, that more than one interpretation-questioning exchange may be necessary, and that teacher silence may be the best policy on occasion. (SB)

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# Responding to questions to continue classroom participation

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Introduction

Learning to question well is very important when trying to help the learning disabled student understand and remember instruction. Questions have been demonstrated to have a direct influence on childrens' answers (Andre, 1979, Durkin, 1981). However, questions may not provide equal amounts of assistance to all children in all learning circumstances (Bachor, Sitko & Slemon, 1980; Winne, 1979). Wong (1979) points out that questions that were designed as main idea memory aids have little effect on normally achieving children in the sixth grade. However, the same questions increased both comprehension and content retention for the same grade student with a learning disability. In addition, the function of questions may change slightly depending upon the nature of the question and when it is asked. The most widely accepted observation on the above statement refers to the latter part. Questions asked before instruction begins tend to result in increased knowledge about the content of the question itself. That is, they focus attention on specific content which may be quite helpful to the teacher who is trying to help a student with a learning disability to find some information in a story or in a mathematics word problem. Questions asked after instruction aid the student not only in remembering the content referred to in the question, but other information as well. Again, this is good news to the teacher of the student with a learning disability, as many of these students have a great deal of difficulty in remembering what they have read when asked to freely recall.

Factors Affecting Questions

However, while questions are helpful, do we need to extend our questioning procedure beyond asking appropriate questions at the right time? When we are trying to facilitate learning for the student who is disorganized or who may be using an ineffective method to solve a problem or who blocks when faced with certain assignments or subject matter, we often end up presented with a not-so-humorous comedy of errors. The student facing constant failure, a feeling of conscious incompetency (Note 1), may need some extra interpretation of the presented instruction in order to become consciously competent.

In order to answer the question of the sufficiency of questions, we must establish an appropriate context in which to answer it. The first, if obvious, necessary component is that we are working with students who are asking or who are being asked questions. As was pointed out in a previous paper in this symposium, these questions may be of various types and should match, as much as possible, what the teacher is trying to accomplish in the classroom. Following a question being asked one of three possible general outcomes are likely to happen (See Figure 1): One, the question asked will result in an appropriate answer; two, the answer or action resulting will be inappropriate; and three, no answer results. These outcomes will vary depending on the strengths and weaknesses of the learner and the type and difficulty of the question or questions asked. Some practical suggestions will be offered later in this paper in dealing with some student response alternatives.

The second important component is the learners' strengths and weaknesses in answering questions. As suggested earlier, for the student who can organize

and interpret presented information questions may not be all that helpful. This may vary depending on the complexity of the task at hand as in the more difficult situations questioning may be useful to a larger number of students. However, in the majority of cases, the normally achieving child is already actively involved in weaving his or her way through the instruction at hand. Interrupting this person with questions may be a negative rather than a positive step. As Frase, in describing the effect of questioning on reading comprehension, noted, questions "may lead a reader to stray from, as well as move toward, desirable learning outcomes" (1977, p. 43). But we are not so much interested in this active learner as we are in the not-so-active interpreter (the disorganized, the frustrated, etc.) or the active mis-interpreter (the student who is still trying hard but who is dividing by adding and subtracting, reading sound by sound, etc.). The nature of general conjecture that can be offered about these learners is at best unclear. While they likely have in common some achievement decrement, they may or may not have short-term memory problems (Torgesen, 1980) and may or may not have trouble getting along socially (Kronick, 1980). More specifically in terms of questioning, these students may not know how to answer certain questions. They may lack relevant background or other subject-specific knowledge or may have interfering knowledge. Or, they may not want to answer questions at all because of previous failure when they have ventured a response. Given this interplay of potential blocks to learning, what steps can the teacher take to increase the amount and quality of classroom participation for the student with a learning disability?

Beyond Student Answers

In a recent paper, Sitko, Bachor and Slemon (1980) note that most questioning techniques focus primarily on leading up to the answer and then stop. They tend to ignore what happens after the answer is obtained. A study by Stallings (1976) supports the necessity of a relationship between questioning and feedback. She states that pairing questioning and feedback resulted in increased achievement in both reading and mathematics in grade one and grade three classes. In this study, length of school day and the average amount of academic learning time were the variables most highly correlated with student gain. She also found that systematic instructional patterns where the teacher is the information giver, asks a question and gives information about the correctness of that answer was important.

Fish and White (1978-79) point out that precise knowledge about how to improve performance, what they termed "usable performance feedback" was important in increasing performance for a class of fifth grade students. However, reinforcers in this study had little effect if the students were already working to the best of their ability or if the task was too difficult for them. They also pointed out that an increased rate of responding had a positive effect on performance. For the special educator it would seem especially important to provide accurate knowledge of how the student is doing given that they are likely to have difficulty interpreting this information for themselves.

A systematic method of providing or following up on student answers has been proposed by Slemon, Bachor, Sitko and Turner (1980). They term this method Interpretation of Pupil Answers (IPA) because of the emphasis placed

on following up on answers to increase student participation and comprehension. An overview of this technique is provided in Figure 2. There are five different types of interpretation suggested. Each type of interpretation is defined below and examples are provided. There is no implied order of use for the different interpretations. Various ones will be better than others, depending on the teacher's purpose and the student's answer. Nor is there any particular reason for using one type of interpretation over another. This too is situation specific.

There are two types of interpretation that have been traditionally called reinforcement or feedback. Feedback and reinforcement were avoided as they are better left as more general terms (see Slemon, Bachor & Sitko, 1980 for a discussion of this issue). The first type of interpretation is evaluate positive. In order to evaluate positive, you must provide the student with information about their work that is favorable. This judgement may refer to the accuracy or correctness of an answer ("That's correct."). It may provide a qualitative appraisal (That is an excellent answer.") It may provide a qualitative appraisal (That is an excellent answer.") or, it may evaluate the student himself or herself ("Bobby, you sure are giving good answers today.") It is probably better to be more specific in providing this positive judgement than to keep your statements general (Fish & White, 1978-79; Stallings, 1976). An example of a more specific evaluate positive would be: "Susan, that is a very clear example of how to write a sentence. You have included all the parts and have punctuated it correctly. Good for you!" Here the student knows what she has done well.

The second type of interpretation which provides a judgement about the answer is evaluate negative. This judgement refers to the same dimensions

as evaluate positive except that the judgement made is unfavorable. Examples of these would be in order of type: "That is incorrect.", "That is a totally inappropriate answer.", and "You were not thinking when you gave that answer.". The last type of evaluate negative, judging the person, must be employed very carefully and infrequently. Telling someone that they are not good is the least preferable way of judging inadequacy. However, letting students know that an answer is incorrect and explaining why it is incorrect can be some of the most helpful information received. To compare this type of interpretation to evaluate positive, not only do you confirm you have learned by finding out that you have met a standard, you are provided with a learning opportunity when we have not met it. An example of evaluate negative is: "The tenors are singing too loudly on the chorus. Tenors, we must be softer.".

The third type of interpretation to be described is a prompt. When using a prompt, the teacher provides a hint or clue so that the student can arrive at the desired answer. Normally a prompt is given when students are unable to answer and additional information is provided. This additional information should not be too leading. On occasion when working with learning disabled, or even normally achieving students, there is a tendency to give away the answer with the prompt. Overprompting does not help the student in the long run as it results in the student being dependent on someone else totally. Rather the prompt should be just informative enough that something remains to be thought out. For example, Billy might say that an ellipse is a polygon. An appropriate prompt may be: "A polygon is a closed figure made up of straight lines. Do you still think that an ellipse is a polygon?".

The next type of interpretation is an expand. In this case the student is asked to give a justification, an explanation or an example. It is often requested when the answer given is ambiguous, incomplete, or not sufficiently supported. Here again the more information the teacher gives in requesting an expand, the more likely it is that the answer will be the required one. And again too, too much information may be harmful. An example of an expand that only asks that more information be provided is: "Try again.". This may be an appropriate use of this interpretation on some occasions. However, at least for learning disabled students, it is likely less useful than, "Yes that is correct, in problem three you divide, but how did you know that you had to divide?". ( In this case, the first part is providing an evaluate positive, and the last part which asks for a justification is an expand.)

The last type of interpretation in this method of providing feedback to students is a refocus. In this case the student is reminded that they have only answered part of the question or have overlooked some component of the instructions. As in the last two types of interpretation, the emphasis here is on the information given and in any particular case too much or too little assistance may be provided. "Before you try to give another answer, think carefully about what you were asked to do.", is an example of a refocus that directs attention back to the instructions to be carried out. Another example that focuses on missing content is: "You've told me how the invention of the atomic energy plant was important to the Canadian Government but what affect has it had on the people working and living nearby?".

Summary and Suggestions

In all of the types of interpretation there are some considerations that carry across each that should be pointed out or reinforced:

1. Interpretations are situation specific yet should fit into the overall lesson plan. They must be chosen in the context of lesson objectives, students' answers, and the initial question or questions. In some cases you will not want to interpret the answer you may only want to restate the question.

2. Leave enough unknown so that students still feel challenged. Providing interpretations can be both helpful and harmful. Too much information and the student feels spoon-fed, or too much positive affect and the student may feel uncomfortable. Too little information may lead to frustration and too negative a judgement may lead to hate.

3. It may be necessary to interpret correct as well as incorrect answers and silence. Just because a correct answer is given does not mean that the responder understands why it is correct or acceptable. Just as silence and incorrect answers may need to be interpreted, the person responding correctly may need to think hard in order to explain that answer. An acceptable interpretation of silence or the quick "I don't know" may be to request a further response, to wait, or perhaps to return later for a clarification of understanding. It does seem important that something be done so that it is certain that the student does respond appropriately.

4. More than one interpretation-questioning exchange may be necessary. It is not important whether or not you are uncertain as to whether or not you are asking a question or calling for or providing an interpretation. What is more important is that teacher-student question-answer interpretation exchanges be seen as a continuing process. The goal of this method is that students will be able to recall and apply information that is both meaningful and helpful in solving future problems. Few issues are thought out clearly in a single attempt.

5. Teacher silence may be the best policy on occasion. Allow wait time, not only after the question but after the answer. Other researchers (Rowe, 1969; SCRDT, 1976) have suggested that wait time after the question is important, it may be equally important to allow think time after an answer has been obtained and before some interpretation is attempted.

6. There are likely factors specific to the learner which make the task of interpretation more difficult. Winne (1980) and Bachor, Sitko & Slemon (1980) have suggested that we cannot think of the learner as an unknown black box. Rather the learner willingness and strengths and weaknesses can determine the extent and type of question/interpretation necessary.

Reference Note

1. The term conscious incompetency refers to the student who is very much aware of their inability to complete some activity. There are three other components in this continuum of knowledge awareness. Unconscious incompetency is being unaware of any skill deficiency. Next is conscious incompetency. Third on the continuum is conscious competency or being aware of what we can do but still requiring practice for mastery. Finally, students reach unconscious competency or the point where they are not aware of their proficiency in any skill. They have mastered it and no longer think about it. Learning disabled students spend much of the learning time either aware of the lack of skill or more frequently aware of this lack. (R. Young, Personal Communication)

| Category | Definition |
|---|---|
| Evaluate positive | A positive judgement of a response is given. For example, "I had never understood that before you explained it." |
| Evaluate negative | A negative appraisal of a response is given. For example, "The man's head in your drawing is too big for the rest of his body." |
| Prompt | A hint, cue or clue is given. For example, "The kind of music you are trying to think of was played by big bands." |
| Expand | An expansion, or explanation is requested. "Could you tell me why the revolutionaries would not compromise their demands?" |
| Refocus | Attention is drawn either to a particular point in a question or answer or to a different viewpoint that must be developed. For example, "Yes, that is the common meaning of scheme, but I asked you how Piaget uses the term." |

FIGURE 2: Categories in Interpretation of Pupil Answers: IPA
(Slemon, Bachor & Sitko & Turner, 1980)

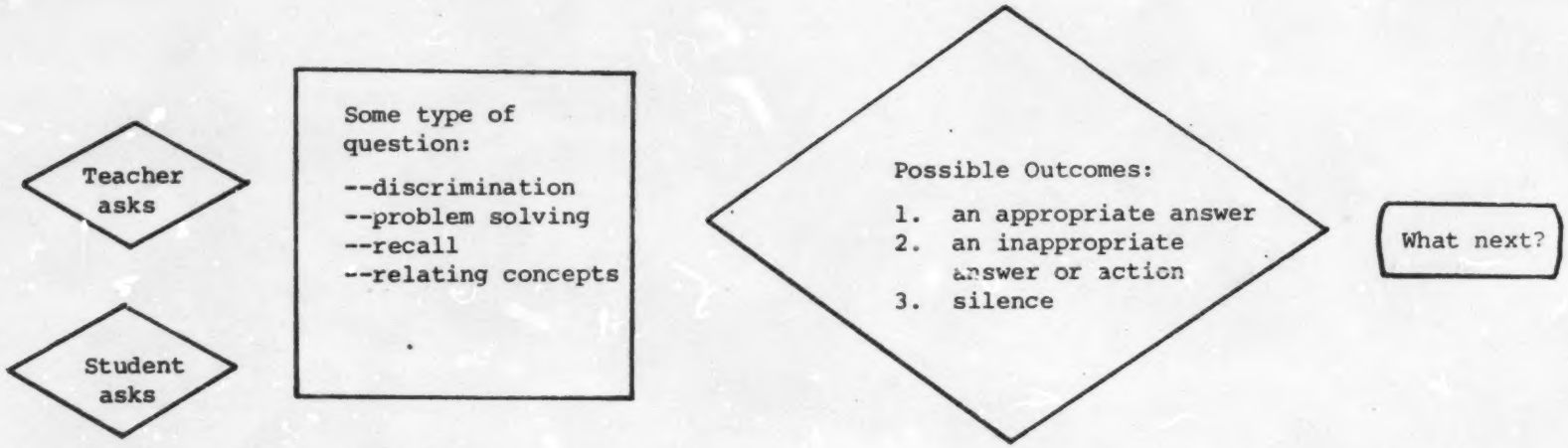


FIGURE 1: Some possible Outcomes in Asking Questions

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